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James J. Leskowitz

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S.C. JOHNSON & SON, INC.
1525 HOWE STREET
RACINE, WI 53403-2236

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/822,301
Filing Date: April 09, 2004
Appellant(s): LESKOWICZ ET AL.

Mary J. Breiner
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 5, 2009 appealing from the Office action mailed July 14, 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

5,849,681	NEUMILLER et al.	12-1998
5,716,921	NEUMILLER	2-1998
EP 0,527,625	CUMMINGS	2-1993
5,540,864	MICHAEL	7-1996
WO 99/11123	CONWAY	3-1999
5,534,198	MASTERS et al.	7-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

9.1. Claims 2, 12, 16, 24, 26, 28, 38, 48, 50, 56, 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumiller et al. (US Patent No. 5,849,681), hereinafter "Neumiller '681".

Neumiller '681 teaches an aqueous cleaning composition for glass surfaces which comprises a combination of at least one nonvolatile organic ether compound and at least one anti-streaking alcohol compound, and if desired, an amphoteric surfactant and an organic solvent, the nonvolatile organic ether compound has a formula as those recited and is present in an amount from about 0.1 to about 5.0 total weight percent (see abstract; col. 3, lines 1-65). In Example 3, Neumiller '681 teaches an anti-streak glass cleaning composition comprising 0.1500 wt% decyl (sulfophenoxy)

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benzenesulfonic acid disodium salt; 0.2000 wt% monoethanolamine; 0.6000 wt% ethylene glycol n-hexyl ether; 0.8000 wt% ethylene glycol n-butyl ether; 3.5000 wt% isopropyl alcohol; 0.2500 wt% propylene glycol and balance soft water (see col. 7, lines 50-65). See also Example 8 under col. 9, lines 10-26. In Example 2, Neumiller '681 teaches a composition comprising 2.5 wt% isopropyl alcohol (see col. 7, lines 31-48). Generally, the pH of the composition is above 7, more preferably from 8-13 and ideally from 10-11 (see col. 7, lines 2-6). Neumiller '681 also teaches that the aqueous glass cleaning composition may also contain one or more surfactants to adjust the surface tension of the composition which include anionic surfactants and amphoteric surfactants (see col. 5, lines 40-48), for example, capryloamphodipropionate (see col. 6, lines 1-2). The surfactant(s) will be employed in the range from 0 to about 5.0 weight percent (see col. 6, lines 9-13). The nonvolatile organic ether compounds of Neumiller '681, e.g. ethylene glycol n-hexyl ether, should have a limited solubility in water of less than 20% and reduces surface tension of the composition to less than 40 dynes/cm because same nonvolatile compounds have been utilized. Neumiller '681, however, fails to specifically disclose a composition comprising an amphoteric surfactant, and the combination of amphoteric and anionic surfactants.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an amphoteric surfactant or a combination of anionic and amphoteric surfactants to the composition to adjust the surface tension of the composition as taught by Neumiller '681 in col. 5, lines 40-48.

9.2. Claims 10, 14, 20, 22, 36, 46, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumiller '681 as applied to the above claims, and further in view of Neumiller (US Patent No. 5,716,921), hereinafter "Neumiller '921".

Neumiller '681 teaches the features as described above. Neumiller '681, however, fails to specifically disclose disodium cocoamphodipropionate as the amphoteric surfactant.

Neumiller '921 teaches, in an analogous art, the equivalency of disodium capryloamphodipropionate with disodium cocoamphodipropionate as amphoteric surfactants (see col. 3, line 54 to col. 4, line 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute capryloamphodipropionate with disodium cocoamphodipropionate because the substitution of art recognized equivalents as shown by Neumiller '921 is within the level of ordinary skill in the art.

9.3. Claims 2, 11-12, 15-16, 23-28, 37-38, 47-50, 55-56, 62-63, 65, 67-68, 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cummings (EP 0,527,625).

Cummings teaches a glass cleaning composition comprising 0.05 to 1.5% ethylene glycol monohexyl ether, 0.01 to 2% surfactant, 0 to 15% cosolvent and water (see abstract). The cosolvent is especially a mixture of a polar low and polar high boiling organic solvent (see page 4, lines 11-14). The low boiling cosolvent is present in an amount of from 0 to about 10%, preferably in an amount of 0.1 to 8%, and the preferred low boiling cosolvent is isopropyl alcohol (see page 4, lines 15-19). The high boiling

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organic cosolvent is typically present in an amount of from 0 to 10%, preferably in an amount of 0.1 to about 5%, and an example is propylene glycol (see page 4, lines 20-35). Generally, the total solvent level present in the composition, including the ethylene glycol monohexyl ether and all cosolvents, will not exceed about 15% by weight of the composition, preferably will be less than about 10% by weight of the composition, and most preferably less than about 7% by weight of the composition (see page 4, lines 36-38). Anionic, nonionic, amphoteric and zwitterionic surfactants, or mixtures thereof (see page 3, line 48) are suitable in the composition of the present invention and are present in an effective cleaning amount, typically from about 0.001 to about 2% by weight of the composition (see page 4, lines 47-50). Examples of anionic surfactants are alkyl and alkylaryl sulfate and sulfonates (see page 4, lines 52-56). Typically the pH of the composition is between about 3.5 to about 6.5 when an acidic composition is desired, and between about 7.5 to about 11.5 when an alkaline composition is desired (see page 6, lines 14-17). The amount of pH modifying agent is between about 0.01 to about 2%, and an example is monoethanolamine (see page 6, lines 18-26). Various optional constituents may be incorporated in the compositions, one of which is builders like polyacrylic acid (see page 6, lines 29-41; page 13, line 35). The ethylene glycol monohexyl ether of Cummings should have a limited solubility in water of less than 20% and reduces surface tension of the composition to less than 40 dynes/cm because same compounds have been utilized. Cummings, however, fails to specifically disclose a composition comprising an amphoteric surfactant, and the combination of amphoteric

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and anionic surfactants, and the VOC content of the composition which is less than 4% by weight, or 3, or about 1% by weight or less.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an amphoteric surfactant or the combination of anionic and amphoteric surfactants to the glass cleaning composition because Cummings suggests their combination on page 3, line 48 and page 4, lines 47-50 as suitable surfactants in the composition.

With respect to the VOC content of the composition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 627 F.2d 272,276,205 USPQ 215,219 (CCPA 1980). See also *In re Woodruff* 919 F.2d 1575, 1578,16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454,456,105 USPQ 233,235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257,191 USPQ 90 (CCPA 1976; *In re Woodruff*; 919 F.2d 1575,16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05 I.

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9.4. Claims 2, 12, 16, 24, 26, 28, 36, 38, 48, 50, 56, 67 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael (US Patent No. 5,540,864).

Michael teaches an aqueous, liquid hard surface detergent composition which comprises 0.18 wt% Cocoamidopropyl-dimethyl-2-hydroxy-3-sulfopropylbetaine (amphoteric surfactant); 0.02 wt% Sodium Alkyl ($-C_{13}$) Sulfate (anionic surfactant); 0.5 wt% monoethanolamine; 3.0 wt% propylene glycol monobutylether; 3.0 wt% isopropanol and balance deionized water and minors, (see Example 1, Formula No. 6, col. 12, lines 29-45), wherein the pH is adjusted to about 10.9 (see col. 13, line 21). Michael also teaches the equivalency of propylene glycol monobutylether with other glycol ethers such as monoethyleneglycolmonohexyl ether (see col. 7, lines 6-15). The balance of the composition is typically water and non-aqueous polar solvents like isopropanol, propylene glycol and mixtures thereof, and the level of the nonaqueous polar solvent is from about 0.5% to about 40%, preferably from about 1% to about 10% and the level of water is from about 50% to about 99% (see col. 8, lines 14-24) . Michael, however, fails to specifically disclose a composition comprising ethylene glycol n-hexyl ether, and propylene glycol, and the VOC content of the composition which is about 1% by weight or less.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute propylene glycol monobutylether in Formula 6 of Example 1 with monoethyleneglycolmonohexyl ether because the substitution of art recognized equivalents is within the level of ordinary skill in the art as shown by Michael

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and to incorporate propylene glycol with isopropanol because mixture of these solvents is suggested by Michael.

With respect to the VOC content of the composition which is about 1% by weight or less, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 627 F.2d 272,276,205 USPQ 215,219 (CCPA 1980). See also *In re Woodruff* 919 F.2d 1575, 1578,16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454,456,105 USPQ 233,235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257,191 USPQ 90 (CCPA 1976; *In re Woodruff*; 919 F.2d 1575,16USPQ2d 1934 (Fed. Cir. 1990). See MFEP 2131.03 and MPEP 2144.05 I.

9.5. Claims 10, 14, 20, 22, 36, 46, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael as applied to the above claims, and further in view of "Neumiller '921".

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Michael teaches the features as described above. Michael, however, fails to specifically disclose disodium cocoamphodipropionate as the amphoteric surfactant.

Neumiller '921 teaches, in an analogous art, that disodium cocoamphodipropionate is an amphoteric surfactant (see col. 3, line 54 to col. 4, line 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the amphoteric surfactant of Michael with disodium cocoamphodipropionate because the substitution of art recognized equivalents as shown by Neumiller '921 is within the level of ordinary skill in the art.

9.6. Claims 9-10, 13-14, 19-22, 35-36, 45-46, 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cummings as applied to the above claims, and further in view of "Neumiller '921".

Cummings teaches the features as described above. Cummings, however, fails to specifically disclose disodium cocoamphodipropionate as the amphoteric surfactant.

Neumiller '921 teaches, in an analogous art, that disodium cocoamphodipropionate is an amphoteric surfactant (see col. 3, line 54 to col. 4, line 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the amphoteric surfactant of Cummings with disodium cocoamphodipropionate because the substitution of art recognized equivalents as shown by Neumiller '921 is within the level of ordinary skill in the art.

9.7. Claims 2, 11-12, 15-16, 23-28, 37-38, 47-50, 55-56, 62-65, 67-68, 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conway (WO 99/11123).

Conway teaches an aqueous cleaning composition for cleaning, disinfecting, and inhibiting mold and mildew growth on a non-porous hard surface (see abstract) which comprises an aliphatic alcohol, a glycol ether or ethers, and optionally, a secondary alcohol selected from the group consisting of monohydric alcohols, dihydric alcohols, trihydric alcohols and polyhydric alcohols at a pH in the range of from about 4.0 to about 13.0 (see page 4, lines 29-34). The composition may also contain other conventional materials including surfactants, pH modifiers, etc. (see page 4, line 34 to page 5, line 1). Typically the aliphatic alcohol is utilized in an amount of up to about 10%, preferably from about 1.0% to about 10.0% by weight of the composition and the preferred aliphatic alcohol is isopropanol (see page 5, lines 7-15). Suitable glycol ethers include ethylene glycol n-hexyl ether and are generally present in the range from about 0.01 to about 10.0 total weight percent (see page 6, lines 1-19). Preferred secondary alcohol is propylene glycol (see page 7, lines 32-33), and is generally employed in the range of up to about 5.0%, preferably from about 0.1% to about 3.5% by weight of the composition (see page 8, lines 1-3). The composition typically has a pH of about 4 or above, more preferably from about 7 to about 13 (see page 8, lines 5-7). The compositions are typically water-based (see page 8, lines 11-21). The compositions may contain one or more surfactants to adjust the surface tension of the composition to aid in cleaning and these surfactants include anionic surfactants such as sodium dodecyl benzene

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sulfonate and sodium lauryl sulfate and amphoteric surfactants like capryloamphodipropionate (see page 9, lines 1-27). The surfactants will be employed in the range from 0 to about 5.0%, preferably in the range of from about 0.01% to about 3.0% by weight of the composition (see page 10, lines 1-4). The formulator may also include a cleaning solvent or cleaning supplement such as monoethanolamine in amounts from 0 to 2.0%, preferably from about 0.01% to about 1.0% by weight of the composition (see page 10, lines 6-10). Thickening agents may also be utilized and include polyacrylic acid polymers and copolymers (see page 10, lines 12-16). Conway, however, fails to specifically disclose an aqueous cleaning composition which comprises ethylene glycol n-hexyl ether, amphoteric and anionic surfactants, isopropanol, propylene glycol or monoethanolamine in amounts as those recited and wherein the composition has a VOC content which is 4% by weight or less.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare an aqueous cleaning composition which comprises ethylene glycol n-hexyl ether, amphoteric and anionic surfactants, isopropanol, propylene glycol or monoethanolamine in their optimum proportions because the teachings of Conway encompass these ingredients and proportions.

With respect to the VOC content of the composition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the

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optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 627 F.2d 272,276,205 USPQ 215,219 (CCPA 1980). See also *In re Woodruff* 919 F.2d 1575, 1578,16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454,456,105 USPQ 233,235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257,191 USPQ 90 (CCPA 1976; *In re Woodruff*; 919 F.2d 1575,16USPQ2d 1934 (Fed. Cir. 1990). See MFEP 2131.03 and MPEP 2144.05 I.

9.8. Claims 9-10, 13-14, 19-22, 35-36, 45-46, 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conway as applied to the above claims, and further in view of Neumiller (US Patent No. 5,716,921), hereinafter "Neumiller '921".

Conway teaches the features as described above. Conway, however, fails to specifically disclose disodium cocoamphodipropionate as the amphoteric surfactant.

Neumiller '921 teaches, in an analogous art, the equivalency of disodium capryloamphodipropionate with disodium cocoamphodipropionate as amphoteric surfactants (see col. 3, line 54 to col. 4, line 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute capryloamphodipropionate with disodium cocoamphodipropionate because the substitution of art recognized equivalents as shown by Neumiller '921 is within the level of ordinary skill in the art.

9.9. Claims 11, 15, 23, 25, 27, 37, 49, 55, 62-65, 68 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael as applied to the above claims, and further in view of Conway.

Michael teaches the features as described above. Michael, however, fails to specifically disclose the incorporation of acrylic polymer or acrylic copolymer.

Conway teaches the features as described above. In particular, Conway teaches the incorporation of thickening agents such as polyacrylic acid polymers or copolymers into compositions for cleaning glass surfaces where there is a need to increase the time the consumer can wipe the composition before it runs down a vertical surface (see page 10, lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate polyacrylic acid polymers or copolymers into the compositions of Michael because this would provide sufficient cling on a vertical surface as taught by Conway.

9.10. Claims 11, 15, 23, 25, 27, 37, 47, 49, 55, 62-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumiller '681 as applied to the above claims, and further in view of Conway.

Neumiller '681 or Michael teaches the features as described above. Neumiller '681, however, fails to specifically disclose the incorporation of acrylic polymer or acrylic copolymer.

Conway teaches the features as described above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate polyacrylic acid polymers or copolymers into the compositions of Neumiller '681 because this would provide sufficient cling on a vertical surface as taught by Conway.

9.11. Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cummings as applied to the above claims, and further in view of Conway.

Cummings teaches the features as described above. Cummings, however, fails to specifically disclose an acrylic copolymer.

Conway teaches the features as described above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the polyacrylic acid polymer of Cummings with acrylic copolymer because the substitution of art recognized equivalents as shown by Conway is within the level of ordinary skill in the art.

9.12. Claims 2, 9, 11-13, 15-16, 19, 21, 23-28, 35-38, 45, 47-50, 55-57, 62-65, 67-68, 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masters et al. (US Patent No. 5,534,198), hereinafter "Masters".

Masters teaches an aqueous liquid hard surface detergent composition having improved cleaning and good filming/streaking characteristics after rewetting and comprising: (A) from about 0.001% to about 2% by weight of detergent surfactant

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selected from the group consisting of: (1) an amphocarboxylate detergent surfactant (2) a zwitterionic detergent surfactant (3) an anionic detergent surfactant, and (4) mixtures thereof; (B) from about 0.5% to about 15% by weight of hydrophobic solvent having a hydrogen bonding parameter of from about 2 to about 7.7; (C) alkaline material to provide a pH, measured on the product, of from about 9 to about 12; (D) from about 0.01% to about 0.3% by weight of substantive polymer that makes glass more hydrophilic, in an effective amount to provide an improvement in spotting/filming after at least three rewettings of the glass, said polymer being selected from the group consisting of polycarboxylate polymers having a molecular weight of from about 10,000 to about 3,000,000, and sulfonated polystyrene polymers having a molecular weight of from about 10,000 to about 1,000,000; and E) the balance being an aqueous solvent system comprising water and optionally, non-aqueous polar solvent with only minimal cleaning action selected from the group consisting of methanol, ethanol, isopropanol, ethylene glycol, polypropylene glycol, glycol ethers having a hydrogen bonding parameter of greater than 7.7, and mixtures thereof (see claim 1). The alkaline material is monoethanolamine (see claim 9). One selection of solvent (B) is ethyleneglycolmonoethyl ether (see claim 11). The cosurfactant is an anionic detergent selected from the group consisting of C₁₂₋₁₈ alkyl sulfates, C₁₂₋₁₈ paraffin sulfonates, C₁₂₋₁₈ acylamidoalkylene sulfonates, and mixtures thereof (see claim 22). The preferred polycarboxylate polymers are those formed by polymerization of monomers, at least some of which contain carboxylic functionality, and common monomers include acrylic acid, maleic acid, ethylene, vinyl pyrrolidone, methacrylic acid,

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methacryloylethylbetaine, etc. (see col. 10, lines 15-19). Masters, however, fails to specifically disclose a composition comprising ethylene glycol n-hexyl ether, amphoteric surfactant, isopropanol, monoethanolamine, and propylene glycol or acrylic polymer or copolymer, the composition having a VOC content as those recited.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have prepared a composition comprising ethylene glycol n-hexyl ether, amphoteric surfactant, isopropanol, monoethanolamine, and propylene glycol or acrylic polymer or copolymer in their optimum proportions because the teachings of Masters encompass these ingredients.

With respect to the proportions of the recited ingredients and the VOC content of the composition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 627 F.2d 272,276,205 USPQ 215,219 (CCPA 1980). See also *In re Woodruff* 919 F.2d 1575, 1578,16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454,456,105 USPQ 233,235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257,191 USPQ 90 (CCPA 1976; *In re*

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Woodruff; 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MFEP 2131.03 and MPEP 2144.05 I.

9.13. Claims 10, 14, 20, 22, 46, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masters as applied to the above claims, and further in view of “Neumiller ‘921”.

Masters teaches the features as described above. Masters, however, fails to specifically disclose disodium cocoamphodipropionate as the amphoteric surfactant.

Neumiller ‘921 teaches, in an analogous art, that disodium cocoamphodipropionate is an amphoteric surfactant (see col. 3, line 54 to col. 4, line 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the amphoteric surfactant of Masters with disodium cocoamphodipropionate because the substitution of art recognized equivalents as shown by Neumiller ‘921 is within the level of ordinary skill in the art.

(10) Response to Argument

The Appellant Argues/Examiner's Response

A. With respect to the rejection of claims 2, 12, 16, 24, 26, 28, 38, 48, 50, 56, 67 under 35 U.S.C. 103(a) as being unpatentable over Neumiller ‘681, Appellant argues that Neumiller ‘681 fails to disclose a composition including an amphoteric surfactant as

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claimed, a combination of amphoteric and anionic surfactant as claimed, and a composition with a VOC (volatile organic compound) content as claimed or recognition of criticality as to VOC content and combination of a low-volatile evaporative organic solvent with properties as claimed. Appellant also argues that that it would not have been obvious to one of ordinary skill in the art at the time of the invention to incorporate an amphoteric surfactant or the combination of anionic and amphoteric surfactants as asserted by the examiner to adjust the surface tension of the composition as taught by Neumiller '681 and obtain applicants' claimed composition. Appellant also argues that Neumiller '681 does not provide any teaching as to VOC content, and no recognition is provided as to the criticality of including in the composition a low volatile non-VOC evaporative glycol ether solvent with the claimed limited water solubility and ability to reduce surface tension to less than 40 dynes/cm, as well as inclusion of a co-solvent different from the first solvent as to solubility and surface tension reduction capacity, and including an alcohol and alkanolamine, and the only manner in which this particular claimed combination of elements could be provided is through the use of impermissible hindsight or speculation.

In response to applicants' argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

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reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). As stated in paragraph 9.1. above, Neumiller '681 teaches an aqueous cleaning composition for glass surfaces (which are hard surfaces) which comprises a combination of at least one nonvolatile organic ether compound and at least one anti-streaking alcohol compound, and if desired, an amphoteric surfactant and an organic solvent, the nonvolatile organic ether compound has a formula as those recited and is present in an amount from about 0.1 to about 5.0 total weight percent (see abstract; col. 3, lines 1-65), and the composition has a pH above 7, more preferably from 8-13 and ideally from 10-11 (see col. 7, lines 2-6). Neumiller '681 also teaches that the aqueous glass cleaning composition may also contain one or more surfactants to adjust the surface tension of the composition which include anionic surfactants and amphoteric surfactants (see col. 5, lines 40-48), for example, capryloamphodipropionate (see col. 6, lines 1-2), and the surfactant(s) will be employed in the range from 0 to about 5.0 weight percent (see col. 6, lines 9-13). In Example 3, Neumiller '681 teaches an anti-streak glass cleaning composition comprising 0.1500 wt% decyl (sulfophenoxy) benzenesulfonic acid disodium salt (an anionic surfactant); 0.2000 wt% monoethanolamine; 0.6000 wt% ethylene glycol n-hexyl ether (which is the low volatile non VOC evaporative organic solvent as identified at least in instant claim 12, hence, it should have a limited solubility in water of less than 20% and reduces surface tension of the composition to less than 40 dynes/cm because same nonvolatile compounds have been utilized); 0.8000 wt% ethylene glycol n-butyl ether; 3.5000 wt% isopropyl alcohol (the aliphatic alcohol); 0.2500 wt% propylene glycol (the polyhydric alcohol) and

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balance soft water (see col. 7, lines 50-65). It should be noted that in this example, the volatile organic component which is isopropyl alcohol is 3.5 wt% which meets the instant claims' less than about 4% by weight volatile organic compound content. In view of the teachings of Neumiller '681 above with respect to the amphoteric surfactant, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an amphoteric surfactant into the composition, say for example, into the composition of Example 3 because it is clear from the teachings of Neumiller '681 in col. 5, lines 40-48, that surfactants like amphoteric surfactants may be added to adjust the surface tension of the composition.

B. With respect to the rejection of claims 10, 14, 20, 22, 36, 46, 58 under 35 U.S.C. 103(a) as being unpatentable over Neumiller '681 as applied to the above claims, and further in view of Neumiller '921, Appellant argues that Neumiller '921 does not make up for the shortcomings of Neumiller '681 and that the secondary reference to Neumiller '921 is relied solely for providing an additional limitation present in the dependent claims, and the only basis for the asserted substitution of the disodium capryloamphodipropionate with sodium cocoamphodipropionate is that both components fall within the same generic chemical description, i.e., both are amphoteric surfactants.

The examiner notes that the substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. *In re Fount*, USPQ 532 (CCPA 1982); *In re Siebentritt*, 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. v Linde Air Products Co.*, 85 USPQ 328 (USSC). As stated in paragraph 9.2. above,

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Neumiller '921 is an analogous art which is also drawn to an aqueous glass cleaning composition (see abstract in Neumiller '921). Neumiller '921 teaches in col. 3, line 54 to col. 4, line 19 the equivalency of disodium capryloamphodipropionate with disodium cocoamphodipropionate as amphoteric surfactants. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute capryloamphodipropionate with disodium cocoamphodipropionate because the substitution of art recognized equivalents as shown by Neumiller '921 is within the level of ordinary skill in the art. In addition, simple substitution of one known element (i.e., capryloamphodipropionate) for another (i.e., disodium cocoamphodipropionate) would achieve the predictable result expected for amphoteric surfactants.

C. With respect to the rejection of claims 2, 11-12, 15-16, 23-28, 37-38, 47-50, 55-56, 62-63, 65, 67-68, 70-71 under 35 U.S.C. 103(a) as being unpatentable over Cummings, Appellant argues that Cummings does not teach or suggest a cleaning composition including an amphoteric surfactant, and the combination of amphoteric and anionic surfactants, and the VOC content of the composition which is less than 4% by weight, or 3%, or about 1% by weight or less, a cosolvent including an alcohol and alkanolamine and any recognition of criticality of a particular VOC content, in particular with a combination of components as claimed.

The Examiner respectfully disagrees with the above arguments because, as stated in paragraph 9.3. above, Cummings teaches a glass (which is a hard surface) cleaning composition comprising 0.05 to 1.5% ethylene glycol monohexyl ether (which

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is the low volatile non VOC evaporative organic solvent as identified at least in instant claim 12, hence, it should have a limited solubility in water of less than 20% and reduces surface tension of the composition to less than 40 dynes/cm because same nonvolatile compounds have been utilized), 0.01 to 2% surfactant, 0 to 15% cosolvent and water (see abstract), the cosolvent especially being a mixture of a polar low and polar high boiling organic solvent (see page 4, lines 11-14) like from 0.1 to 8% isopropyl alcohol (see page 4, lines 15-19) and from 0.1 to about 5% propylene glycol (see page 4, lines 20-35), wherein the total solvent level present in the composition, including the ethylene glycol monohexyl ether and all cosolvents, will not exceed about 15% by weight of the composition, preferably will be less than about 10% by weight of the composition, and most preferably less than about 7% by weight of the composition (see page 4, lines 36-38). Cummings also teaches that anionic, nonionic, amphoteric and zwitterionic surfactants, or mixtures thereof (see page 3, line 48) are suitable in the composition and are present in an effective cleaning amount, typically from about 0.001 to about 2% by weight of the composition (see page 4, lines 47-50), and builders like polyacrylic acid (see page 6, lines 29-41; page 13, line 35). The pH is modified with, for example, between about 0.01 to about 2%, monoethanolamine (see page 6, lines 18-26). Cummings teaches each of the ingredients having overlapping proportions as those required in the present claims, hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have prepared a glass cleaning composition comprising ethylene glycol monohexyl ether, surfactant mixture like amphoteric surfactant and anionic surfactant, water, monoethanolamine, and

cosolvent in their optimum proportions because the teachings of Cummings at least in page 3, lines 47-50; page 4, lines 47-51; and claim 1, encompass these combination of ingredients and proportions. The above combination of the aqueous phase ethylene glycol monohexyl ether, surfactant mixture like amphoteric surfactant and anionic surfactant, water, monoethanolamine, and cosolvent in their optimum proportions taught by Cummings yields predictable result of producing a hard surface cleaning composition which provides a low VOC content and a surface tension reduction within those recited. In addition, mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention, see *In re Wiseman*, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979). Also, the fact that Applicants have recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious, see *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). See also MPEP 2145 II. Applicants have not provided any showing of criticality with respect to their specific ingredients having specific proportions when compared to similar components as those taught by Cummings.

D. With respect to the rejection of claims 2, 12, 16, 24, 26, 28, 36, 38, 48, 50, 56, 67 and 70 under 35 U.S.C. 103(a) as being unpatentable over Michael, Appellant argues that Michael fails to disclose a hard surface cleaning composition containing a combination of a defined glycol ether low-volatile solvent with limited solubility in water of less than 20% and ability to reduce surface tension of the composition to less than 40

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dynes/cm, an amphoteric surfactant and a co-solvent different from the defined glycol ether and including an alcohol and an alkanolamine. Appellant also argues that Michael provides no recognition of criticality of VOC content, and no suggestion is provided which would lead to the selection of the specific components as claimed to provide a composition with the claimed zero to low VOC content and yet providing cleaning as desired of hard surfaces.

The Examiner respectfully disagrees with the above arguments because, as stated in paragraph 9.4. above, Michael teaches an aqueous, liquid hard surface detergent composition which comprises 0.18 wt% Cocoamidopropyl-dimethyl-2-hydroxy-3-sulfopropylbetaine (amphoteric surfactant); 0.02 wt% Sodium Alkyl (-C₁₃) Sulfate (anionic surfactant); 0.5 wt% monoethanolamine; 3.0 wt% propylene glycol monobutylether; 3.0 wt% isopropanol and balance deionized water and minors, (see Example 1, Formula No. 6, col. 12, lines 29-45), wherein the pH is adjusted to about 10.9 (see col. 13, line 21). Michael also teaches the equivalency of propylene glycol monobutylether with other glycol ethers such as monoethyleneglycolmonoethyl ether (see col. 7, lines 6-15). The balance of the composition is typically water and non-aqueous polar solvents like isopropanol, propylene glycol and mixtures thereof, and the level of the nonaqueous polar solvent is from about 0.5% to about 40%, preferably from about 1% to about 10% and the level of water is from about 50% to about 99% (see col. 8, lines 14-24) . Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute propylene glycol monobutylether in Formula 6 of Example 1 with monoethyleneglycolmonoethyl ether because the

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substitution of art recognized equivalents is within the level of ordinary skill in the art as shown by Michael and to incorporate propylene glycol with isopropanol because mixture of these solvents is suggested by Michael as shown in Example 1, Formula No. 6. With respect to the VOC content of the composition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 627 F.2d 272,276,205 USPQ 215,219 (CCPA 1980). See also *In re Woodruff* 919 F.2d 1575, 1578,16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454,456,105 USPQ 233,235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257,191 USPQ 90 (CCPA 1976; *In re Woodruff*; 919 F.2d 1575,16USPQ2d 1934 (Fed. Cir. 1990). See MFEP 2131.03 and MPEP 2144.05 I. Also, Appellant has not provided any showing of criticality with respect to their specific ingredients having specific proportions when compared to similar components as those taught by Michael.

E. With respect to the rejection of claims 10, 14, 20, 22, 36, 46, 58 under 35 U.S.C. 103(a) as being unpatentable over Michael as applied to the above claims, and

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further in view of "Neumiller '921", Appellant argues that Michael and Neumiller '921 each have deficiencies as to the claimed subject matter as described above and such combination does not make up for these shortcomings.

The Examiner's responses in B and D above apply here as well.

F. With respect to the rejection of claims 9-10, 13-14, 19-22, 35-36, 45-46, 57-58 under 35 U.S.C. 103(a) as being unpatentable over Cummings as applied to the above claims, and further in view of Neumiller '921, Appellant argues that Cummings and Neumiller '921 each have deficiencies as to the claimed subject matter that are not made up for upon combination together.

The Examiner's responses in B and C above apply here as well.

G. With respect to the rejection of claims 2, 11-12, 15-16, 23-28, 37-38, 47-50, 55-56, 62-65, 67-68, 70-71 under 35 U.S.C. 103(a) as being unpatentable over Conway, Appellant argue that no guidance or suggestion is provided s to picking and choosing select components, in select amounts to achieve a defined VOC content in order to achieve the particular combination claimed by applicants.

The Examiner respectfully disagrees with the above arguments because, as stated in paragraph 9.7. above, Conway teaches an aqueous cleaning composition for cleaning, disinfecting, and inhibiting mold and mildew growth on a non-porous hard surface (see abstract) which comprises an aliphatic alcohol, a glycol ether or ethers, and optionally, a secondary alcohol selected from the group consisting of monohydric

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alcohols, dihydric alcohols, trihydric alcohols and polyhydric alcohols at a pH in the range of from about 4.0 to about 13.0 (see page 4, lines 29-34), other conventional materials including surfactants, pH modifiers, etc. (see page 4, line 34 to page 5, line 1). Typically the aliphatic alcohol is utilized in an amount preferably from about 1.0% to about 10.0% by weight of the composition and the preferred aliphatic alcohol is isopropanol (see page 5, lines 7-15). Suitable glycol ethers include ethylene glycol n-hexyl ether and are generally present in the range from about 0.01 to about 10.0 total weight percent (see page 6, lines 1-19). Preferred secondary alcohol is propylene glycol (see page 7, lines 32-33), and is generally employed in the range of up to about 5.0%, preferably from about 0.1% to about 3.5% by weight of the composition (see page 8, lines 1-3). The compositions may contain one or more surfactants to adjust the surface tension of the composition to aid in cleaning and these surfactants include anionic surfactants such as sodium dodecyl benzene sulfonate and sodium lauryl sulfate and amphoteric surfactants like capryloamphodipropionate (see page 9, lines 1-27), preferably in the range of from about 0.01% to about 3.0% by weight of the composition (see page 10, lines 1-4). The formulator may also include a cleaning solvent or cleaning supplement such as monoethanolamine in amounts preferably from about 0.01% to about 1.0% by weight of the composition (see page 10, lines 6-10), and thickening agents may also be utilized and include polyacrylic acid polymers and copolymers (see page 10, lines 12-16). Conway teaches each of the ingredients having overlapping proportions as those recited in the present claims. Appellant has not provided any

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showing of criticality with respect to their specific ingredients having specific proportions when compared to similar components as those taught by Conway.

H. With respect to: the rejection of claims 9-10, 13-14, 19-22, 35-36, 45-46, 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conway as applied to the above claims, and further in view of Neumiller '921; the rejection of claims 11, 15, 23, 25, 27, 37, 49, 55, 62-65, 68 and 71 under 35 U.S.C. 103(a) as being unpatentable over Michael as applied to the above claims, and further in view of Conway; the rejection of claims 11, 15, 23, 25, 27, 37, 47, 49, 55, 62-65 under 35 U.S.C. 103(a) as being unpatentable over Neumiller '681 as applied to the above claims, and further in view of Conway; and the rejection of claim 64 under 35 U.S.C. 103(a) as being unpatentable over Cummings as applied to the above claims, and further in view of Conway, Appellant argues that the combination of each of the above references does not make up for the shortcomings of each of these references on the same basis as set forth above and resubmitted and relied on here.

The Examiner's responses in A-G above apply here as well.

I. With respect to the rejection of claims 2, 9, 11-13, 15-16, 19, 21, 23-28, 35-38, 45, 47-50, 55-57, 62-65, 67-68, 70-71 under 35 U.S.C. 103(a) as being unpatentable over Masters Appellant argues that Masters does not provide any teaching or suggestion which would result in picking and choosing select components and providing

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such in a particular combination as claimed by applicants as to amounts, components, volatility, water solubility and surface tension reduction capacity.

The Examiner respectfully disagrees with the above arguments because, as stated in paragraph 9.12. above, Masters teaches an aqueous liquid hard surface detergent composition having improved cleaning and good filming/streaking characteristics after rewetting and comprising: (A) from about 0.001% to about 2% by weight of detergent surfactant selected from the group consisting of: (1) an amphocarboxylate detergent surfactant (2) a zwitterionic detergent surfactant (3) an anionic detergent surfactant, and (4) mixtures thereof; (B) from about 0.5% to about 15% by weight of hydrophobic solvent having a hydrogen bonding parameter of from about 2 to about 7.7; (C) alkaline material to provide a pH, measured on the product, of from about 9 to about 12; (D) from about 0.01% to about 0.3% by weight of substantive polymer that makes glass more hydrophilic, in an effective amount to provide an improvement in spotting/filming after at least three rewettings of the glass, wherein an example of the polymer is polycarboxylate polymer and E) the balance being an aqueous solvent system comprising water and optionally, non-aqueous polar solvent with only minimal cleaning action selected from the group consisting of methanol, ethanol, isopropanol, ethylene glycol, propylene glycol, glycol ethers having a hydrogen bonding parameter of greater than 7.7, and mixtures thereof (see col. 11, lines 25-37 claim 1). The alkaline material is monoethanolamine (see claim 9). One selection of solvent (B) is ethyleneglycolmonohexyl ether (see claim 11). Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have

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prepared a composition comprising ethylene glycol n-hexyl ether, amphoteric surfactant, isopropanol, monoethanolamine, and propylene glycol or acrylic polymer or copolymer in their optimum proportions because the teachings of Masters encompass these ingredients. With respect to the proportions of the recited ingredients and the VOC content of the composition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 627 F.2d 272,276,205 USPQ 215,219 (CCPA 1980). See also *In re Woodruff* 919 F.2d 1575, 1578,16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454,456,105 USPQ 233,235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257,191 USPQ 90 (CCPA 1976; *In re Woodruff*; 919 F.2d 1575,16USPQ2d 1934 (Fed. Cir. 1990). See MFEP 2131.03 and MPEP 2144.05 I. Also, Appellant has not provided any showing of criticality with respect to their specific ingredients having specific proportions when compared to similar components as those taught by Masters.

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J. With respect to the rejection of claims 10, 14, 20, 22, 46, 58 under 35 U.S.C. 103(a) as being unpatentable over Masters as applied to the above claims, and further in view of Neumiller '921, Appellant argues that the combination of Masters and Neumiller '921 does not make up for the shortcomings of each reference on the basis as set forth above and resubmitted and relied on here.

The Examiner's responses in B and I above apply here as well.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Lorna M Douyon/

Primary Examiner, Art Unit 1796

Conferees:

/Harold Y Pyon/

Supervisory Patent Examiner, Art Unit 1796

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/Christopher A. Fiorilla/

Chris Fiorilla

Supervisory Patent Examiner, Art Unit 1700